

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appl. No. 09/537,416

B1
Cmt optical isomer I with which said biological material is reacted is present in a mixture with optical isomer II.

B2 4. (twice amended) The method according to Claim 10, 11 or 12, wherein said biological material is a whole cell.

B3 9. (amended) The method according to Claim 13, 14 or 15, wherein said optical isomer I is a D-form and said optical isomer II is a L-form.

Please add the following new claims.

Subcl 10. (new) A method for producing from an optical isomer I of an amino acid represented by Formula (I):



B4 wherein R is an optionally substituted C1-C12 alkyl group, an optionally substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group, an optical isomer II, said method comprising reacting a biological material which has an ability of converting said optical isomer I to said optical isomer II, the isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine, with said optical isomer I, wherein said biological material is one obtained from a microorganism belonging to the genus *Arthrobacter*, *Klebsiella*, *Nocardia*, *Rhizobium*, *Saccharopolyspora* or *Streptomyces*.

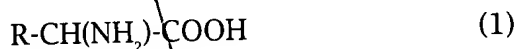
11. (new) A method for producing from an optical isomer I of an amino acid represented by Formula (I):



AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appl. No. 09/537,416

wherein R is an optionally substituted C1-C12 alkyl group, an optionally substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group, an optical isomer II, said method comprising reacting a biological material which has an ability of converting said optical isomer I to said optical isomer II, the isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine, with said optical isomer I, wherein said biological material is one obtained from a microorganism classified to *Arthrobacter pascens*, *Flavimonas oryzae*, *Klebsiella planticola*, *Nocardia diaphanozonaria*, *Pseudomonas chlororaphis*, *Pseudomonas oleovorans*, *Pseudomonas oxalaticus*, *Pseudomonas taetrolens*, *Rhizobium meliloti*, *Saccharopolyspora hirsuta* or *Streptomyces roseus*.

(12). (new) A method for producing from an optical isomer I of an amino acid represented by Formula (I):



wherein R is an optionally substituted C1-C12 alkyl group, an optionally substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group, an optical isomer II, said method comprising reacting a biological material which has an ability of converting said optical isomer I to said optical isomer II, the isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine, with said optical isomer I, wherein said biological material is one obtained from

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appl. No. 09/537,416

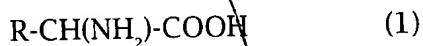
Arthrobacter pascens strain IFO12139, *Flavimonas oryzihabitans* strain JCM2952, *Klebsiella planticola* strain JCM7251, *Nocardia diaphanozonaria* strain JCM3208, *Pseudomonas chlororaphis* strain IFO3521, *Pseudomonas oleovorans* strain IFO13583, *Pseudomonas oxalaticus* strain IFO13593, *Pseudomonas taetrolens* strain IFO3460, *Rhizobium meliloti* strain IFO14782, *Saccharopolyspora hirsuta subsp. kobensis* strain JCM9109 or *Streptomyces roseus* strain IFO12818.

(13). (new) A method for improving the optical purity of an amino acid represented by Formula (I):



wherein R is an optionally substituted C1-C12 alkyl group, an optionally substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group, said method comprising reacting a biological material which has an ability of converting an optical isomer I of said amino acid to an optical isomer II, the isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine, with said amino acid represented by Formula (I), wherein said biological material is one obtained from a microorganism belonging to the genus *Arthrobacter*, *Klebsiella*, *Nocardia*, *Rhizobium*, *Saccharopolyspora* or *Streptomyces*.

(14). (new) A method for improving the optical purity of an amino acid represented by Formula (I):



wherein R is an optionally substituted C1-C12 alkyl group, an optionally

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/537,416

substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group, said method comprising reacting a biological material which has an ability of converting an optical isomer I of said amino acid to an optical isomer II, the isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine, with said amino acid represented by Formula (I), wherein said biological material is one obtained from a microorganism classified to *Arthrobacter pascens*, *Flavimonas oryzihabitans*, *Klebsiella planticola*, *Nocardia diaphanozonaria*, *Pseudomonas chlororaphis*, *Pseudomonas oleovorans*, *Pseudomonas oxalaticus*, *Pseudomonas taetrolens*, *Rhizobium meliloti*, *Saccharopolyspora hirsuta* or *Streptomyces roseus*.

15. (new) A method for improving the optical purity of an amino acid represented by Formula (I):

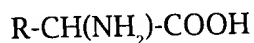


wherein R is an optionally substituted C1-C12 alkyl group, an optionally substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group, said method comprising reacting a biological material which has an ability of converting an optical isomer I of said amino acid to an optical isomer II, the isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine, with said amino acid represented by Formula (I), wherein said biological material is one obtained from *Arthrobacter pascens* strain IFO12139, *Flavimonas oryzihabitans* strain

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appl. No. 09/537,416

JCM2952, *Klebsiella planticola* strain JCM7251, *Nocardia diaphanozonaria* strain JCM3208, *Pseudomonas chlororaphis* strain IFO3521, *Pseudomonas oleovorans* strain IFO13583, *Pseudomonas oxalaticus* strain IFO13593, *Pseudomonas taetrolens* strain IFO3460, *Rhizobium meliloti* strain IFO14782, *Saccharopolyspora hirsuta subsp. kobensis* strain JCM9109 or *Streptomyces roseus* strain IFO12818.

16. (new) A method for producing from an optical isomer I of an amino acid represented by Formula (I):



l not I
(1)

See C1 Cont
wherein R is an optionally substituted C1-C12 alkyl group, an optionally substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group, said method comprising reacting a biological material which has an ability of converting an optical isomer I of said amino acid to an optical isomer II, the isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine, with a racemic mixture of said optical isomers I and II.

See C1 Cont
17. (new) A method for producing from an optical isomer I of an amino acid represented by Formula (I):



(1)

wherein R is an optionally substituted C1-C12 alkyl group, an optionally substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group, said method comprising reacting a biological material which has an ability of converting an optical isomer I of said amino acid to an optical active isomer II, the

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appl. No. 09/537,416

isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine, with said optical isomer I.

18. (new) A method for producing an optically active amino acid having increased optical purity with respect to an optical isomer II of an amino acid represented by Formula (I):



wherein R is an optionally substituted C1-C12 alkyl group, an optionally substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group, said method comprising reacting a biological material which has an ability of converting an optical isomer I of said amino acid to an optical isomer II, the isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine, with a racemic mixture of said optical isomers I and II, wherein the mixture is not a racemic mixture.

19. (new) The method according to Claim 16, 17 or 18, wherein said optical isomer I is a D-form and said optical isomer II is a L-form.

20. (new) The method according to claim 16, 17 or 18, wherein said biological material is one obtained from a microorganism belonging to the genus *Arthrobacter*, *Klebsiella*, *Nocardia*, *Rhizobium*, *Saccharopolyspora* or *Streptomyces*.

21. (new) The method according to claim 16, 17 or 18, wherein said biological

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appl. No. 09/537,416

material is one obtained from a microorganism classified to *Arthrobacter pascens*,
Flavimonas oryzihabitans, *Klebsiella planticola*, *Nocardia diaphanozonaria*,
Pseudomonas chlororaphis, *Pseudomonas oleovorans*, *Pseudomonas oxalaticus*,
Pseudomonas taetrolens, *Rhizobium meliloti*, *Saccharopolyspora hirsuta* or
Streptomyces roseus.

22. (new) The method according to claim 16, 17 or 18, wherein said biological
material is one obtained from *Arthrobacter pascens* strain IFO12139, *Flavimonas*
oryzihabitans strain JCM2952, *Klebsiella planticola* strain JCM7251, *Nocardia*
diaphanozonaria strain JCM3208, *Pseudomonas chlororaphis* strain IFO3521,
Pseudomonas oleovorans strain IFO13583, *Pseudomonas oxalaticus* strain IFO13593,
Pseudomonas taetrolens strain IFO3460, *Rhizobium meliloti* strain IFO14782,
Saccharopolyspora hirsuta subsp. kobensis strain JCM9109 or *Streptomyces roseus* strain
IFO12818.

B4
Add c1